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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH119
SHEET 1 of 4
REFERENCE No H10894

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
LOCATION PIER 1 - (Ch. 84514.9 on control line) COORDINATES 721508.2 E; 7654820.8 N
PROJECT No FG5635 SURFACE R.L. 9.10m PLUNGE DATE STARTED 2/11/10 GRID DATUM MGA 94
JOB No 242/33B/6 HEIGHT DATUM AHD BEARING DATE COMPLETED 2/11/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	ALGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	9.10					Sandy SILT (ALLUVIAL) Brown and black, moist, stiff. High plasticity; minor organics.								
1					A			(MH)					3,5,4 N=9	SPT
2	7.30				B	Silty CLAY (ALLUVIAL) Pale brown and black, moist, stiff to very stiff. High plasticity; minor organics.								
3						Minor sand and gravel increasing with depth.		(CH)					5,6,7 N=13	SPT
4					C								5,8,12 N=20	SPT
5	4.20				D	Silty SAND / Sandy SILT (ALLUVIAL) Pale orange and brown, moist, medium dense very stiff.		(SM/MH)				Water loss from 5.65m	7,8,7 N=15	SPT
6														
7	2.70				E	SAND (ALLUVIAL) Pale grey, moist, mainly medium dense to dense. Mostly fine to medium grained; some coarse sand to fine gravel bands with minor silt fraction.							10,9,8 N=17	SPT
8								(SP)				Increased gravel content; water loss		
9					F								9,14,14 N=28	SPT
10														

REMARKS Note: *Failure appears to have occurred along a pre-existing defect plane.

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BOREHOLE No BH119
SHEET 2 of 4
REFERENCE No H10894

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
LOCATION PIER 1 - (Ch. 84514.9 on control line) COORDINATES 721508.2 E; 7654820.8 N
PROJECT No FG5635 SURFACE R.L. 9.10m PLUNGE _____ DATE STARTED 2/11/10 GRID DATUM MGA 94
JOB No 242/33B/6 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 2/11/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	ALGER CUSING WASH BORING CORE DRILLING	RQD () %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	-0.90				G	SAND (ALLUVIAL) (Cont'd)						9,11,11 N=22	SPT
11							(SP)					Water loss	
12					H							11,16,17 N=33	SPT
13	-3.20				J	Silty Gravelly SAND Pale grey speckled white, moist, medium dense, medium to coarse grained sand.						7,11,14 N=25	SPT
14							(SM)						
15	-5.10				K	Clayey Silty SAND Pale grey, moist, medium dense, medium to coarse grained sand.						10,12,16 N=28	SPT
16					L	Silty CLAY (RESIDUAL) Mottled pale grey, orange and black, moist, hard. High plasticity; Fe/Mn oxide nodules; some minor sandy layers.						10,19,23 N=42	SPT
17							(CH)						
18					M							11,14,20 N=34	SPT
19	-9.30				N	Clayey Sandy SILT (RESIDUAL) Pale grey and white, moist, hard. High plasticity.						11,16,20 N=36	SPT
20							(MH)						

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BOREHOLE No BH119
SHEET 3 of 4
REFERENCE No H10894

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
LOCATION PIER 1 - (Ch. 84514.9 on control line) COORDINATES 721508.2 E; 7654820.8 N
PROJECT No FG5635 SURFACE R.L. 9.10m PLUNGE _____ DATE STARTED 2/11/10 GRID DATUM MGA 94
JOB No 242/33B/6 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 2/11/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER LOG WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-10.90					Clayey Sandy SILT (RESIDUAL) (Cont'd)							
21					P			(MH)				10,14,18 N=32	SPT
22	-12.40				Q	GRANODIORITE Intrusive, medium to coarse grained, massive, crystalline, porphyritic, acidic, igneous rock HW: Generally exhibits the engineering properties of pale grey and orange, moist, hard, silty clay.						12,15,30 N=45	SPT
23					R							30,30/100mm N>50	SPT
24								HW					
25					S							30/60mm N>50	SPT
26													
27	-17.90					MW: Grey and brown, speckled pale grey, generally low to medium strength. Defects: - Joints @ 5-15° (10/m) Defect surfaces are generally planar, rough and open.							
28			100					MW				Is(50) = 0.03MPa; * Is(50) = 0.17MPa; * Is(50) = 0.55MPa Is(50) = 0.03MPa; *	o x o o
29	-19.85		100			SW: Grey to speckled pale grey, very high to extremely high strength.		HW				Is(50) = 0.16MPa; * CLy & gravel in parts	x
30			100					SW				Contact: boundary unclear Is(50) = 1.14MPa Is(50) = 0.18MPa; *	x o

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BOREHOLE No BH119
SHEET 4 of 4
REFERENCE No H10894

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
LOCATION PIER 1 - (Ch. 84514.9 on control line) COORDINATES 721508.2 E; 7654820.8 N
PROJECT No FG5635 SURFACE R.L. 9.10m PLUNGE _____ DATE STARTED 2/11/10 GRID DATUM MGA 94
JOB No 242/33B/6 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 2/11/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER Casing Wash Boring Core Drilling	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
30	-20.90					GRANODIORITE SW: (Cont'd) Defects: Generally rare. - Joints @ 5-35° (1/m)		SW					Is(50) = 14.74MPa Is(50) = 12.01MPa	x o	
31	-21.65		100			Defects are generally planar, rough, open to closed. Borehole terminated at 30.75m							Is(50) = 6.68MPa	x	
32															
33															
34															
35															
36															
37															
38															
39															
40															

REMARKS Note: *Failure appears to have occurred along a pre-existing defect plane.

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Project: **Walkerston Bypass Geotechnical Investigation**
Borehole No: BH119 (Cowleys Rd Bridge Ch. 84514.9 on control line)
Start Depth: 27.00m
Finish Depth: 30.75 m
Project No: FG5635
H No: H10894



SCALE 1:5

F:GEOT043/1